BOOK REVIEWS

Mental Discipline and Educational Values. By W. H. HECK. New York: John Lane Co., 1909. Pp. 147. $1.00 net.

This book presents in short compass a well-balanced and useful statement of the present status of the old problem of mental discipline. Those who think that the partial reaction from the extreme view of the specialization of the mind to which the first experiments pointed is only a pendulum-like change of view have not understood recent experimental work. There is no longer any doubt in regard to the existence of the general effects of special practice. The question is now much more sharply defined. It is a question of conditions and particularly of the extent to which this more general influence of practice is carried and to what factors it is due. And the answer of experimental work is still that the influence is usually very much circumscribed in its effect, so that there may appear at times no effect on even what seem to be closely related abilities. The influence of any special practice or training may be to augment, to neutralize, or to inhibit the operation of functions which are sufficiently related to be affected at all.

The book is divided into eight chapters. The first includes a short historical statement of the problem with typical quotations from the writings of both those who have upheld and those who have been opposed to the doctrine of formal discipline. Under the chapter on observation some well-considered points of a more general nature are brought together, and in the third chapter, on experiments, a useful and on the whole discriminating summary of the experimental work is given.

The results and interpretations of the various experimenters are given by quotations from their work and are usually accepted at their face value. A more critical examination and weighing of the experimental evidence is much needed. The experiments of James and those of Ebert and Meumann are only mentioned, although their contributions are among the most important. To James belongs the credit of initiating the experimental testing of the question of formal discipline. His experiments on memory were not in themselves conclusive, but the method is the one used in all subsequent experiments and led to the more convincing work of Thorndike and Woodworth. The elaborate experiments of Ebert and Meumann, also in the field of memory, to which more detailed reference should have been made, have been the main experimental prop of those who now hold to some form of general mental discipline, since the experiments indicated a very large amount of the influence of special practice. The result is in part at least due to the inexcusable failure to provide check experiments.

Their experiments were arranged in the usual way: first, a series of tests of a dozen different sorts of memory or memory material, visual, auditory, for prose and poetry, logical passages, etc., followed by a month of daily practice in learning nonsense material, then a repetition of the preliminary tests to note any general effects of the work with the nonsense material. This was again

followed by another month of practice in the learning of nonsense syllables, and finally a second repetition—making three trials in all—of the series of tests. The results, which show a large increase in efficiency of general memory as indicated by the series of tests, are open to the serious criticism that *some* of the improvement would have appeared had the three series of twelve or more tests been alone committed to memory, i.e., without the intervening practice with the nonsense material. The improvement noted was only in part due to this latter drill. How much was due to it could have been determined by a parallel or check experiment on a similar group of subjects.

The chapter on localization of function, in which an attempt is made to relate the question of mental discipline to the findings of neurology and brain physiology, presents an obscure statement of ill-digested facts and hazy conceptions. The old faculty psychology does not lend itself to explanation in terms of modern conceptions of neurology, but the present modified views of formal discipline can be about as well explained in terms of brain psychology as can the views of the more specialized activity of the mind. The book would be much better without this chapter, which should certainly be omitted by the general student.

Under general concepts of methods a good summary is presented of the, on the whole, successful attempts that have been made to square the experimental findings with common sense and with our general observations and beliefs in the general efficacy of some specific mental disciplines. Such suggestions as the "identity of procedure" of Thorndike and the "general ideals" of Bagley are presented. The three concluding chapters discuss mainly the practical bearings of mental discipline in relation to school work.

The book is largely one of quotations rather than of original discussion, but will be found of value for class-room work because its choice and statement of material is excellent and because in the case of the experimental literature it brings together results which are scattered through many different journals.

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THE SCHOOL OF EDUCATION
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Teachers College Contributions to Education. No. 31, *The Training of Elementary School Teachers in Germany.* By I. L. KANDEL. Pp. vii+137. No. 32, *The Training of Teachers in England and Wales.* By PETER SANDIFORD. Pp. xiv+168. No. 33, *The Conflict of Naturalism and Humanism.* By WILLYSTINE GOODSELL. Pp. vii+183. New York: Columbia University, 1910. $1.50 each.

The dissertations of Doctors of Philosophy usually do not attract wide attention. Many of them have little significance outside the circles most directly concerned with them. The present volumes, however, are real contributions to education, and if published in ordinary book form and placed before school workers in the manner in which other educational works are presented they would have a wider circulation.

Dr. Sandiford and Dr. Kandel represent the training of both Manchester (England) and Columbia universities. Their discussions of the training of teach-